

What is claimed is:

1. In an electronic device a method for accessing an image acquisition device associated with the electronic device independent of an interface protocol of the image acquisition device, the method comprising the steps of,
5 receiving a request from a requester to access the image acquisition device;
establishing a communication channel between the requester and the image acquisition device independent of the interface protocol of the image acquisition device; and
with the requester, accessing a feature of the image acquisition device using
10 the communication channel.
2. The method of Claim 1, wherein the request specifies a format for a response from the image acquisition device.
- 15 3. The method of Claim 2, wherein the step of establishing comprises the steps of,
communicating with an interface of the image acquisition device to establish communication therewith; and
establishing one or more communication procedures between the requester
20 and the image acquisition device, the communication procedures providing instructions on how data transfers are managed between the requester and the image acquisition device across the communication channel.
4. The method of Claim 3, wherein the one or more communication procedures
25 provides instructions for at least one of, logging data to file, buffering data received from the image acquisition device, configuring selected properties associated with the image acquisition device, generating events, and translating error codes from the image acquisition device.
- 30 5. The method of Claim 1, wherein the request from the requester is received from a user interface.
6. The method of Claim 5, wherein said user interface comprises an object based interface having methods and attributes.

7. An electronic device associated with an image acquisition device for use in practicing a technical computing environment, the technical computing environment for developing and performing engineering and scientific related functions, the

5 electronic device comprising,

an output device for use by a user; and

an image acquisition mechanism responsive to inputs from the user to communicate with the image acquisition device in a manner independent of a communication protocol used by the image acquisition device to communicate with
10 devices external thereto.

8. The electronic device of Claim 7, further comprising a display device for viewing by the user, wherein the image acquisition mechanism is capable of rendering a user interface on the display device to allow the user to provide the image
15 acquisition mechanism with inputs using the input device.

9. The electronic device of Claim 7, wherein the image acquisition mechanism comprises,

an interface to receive the input from the user;

20 an engine mechanism for managing communication between the user and the image acquisition device; and

an adapter mechanism adaptable to link the engine mechanism and an interface associated with the image acquisition device to establish communications between the engine mechanism and the image acquisition device.
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10. A method performed in an electronic device for communicating with a selected image acquisition device associated with the electronic device, the method comprising the steps of,

30 establishing a first communication link between a user of the electronic device and an image acquisition engine; and

establishing a second communication link between the image acquisition engine and an interface of the selected image acquisition device using a communication channel operating independent of an interface protocol of the selected

image acquisition device to allow the user to communicate with the selected image acquisition device.

11. The method of Claim 10, further comprising the step of, associating the image acquisition engine with a driver adapted for communicating with the interface of the selected image acquisition device.

12. The method of Claim 10, further comprising the step of, selecting the image acquisition device from a plurality of image acquisition devices associated with the electronic device.

13. The method of Claim 11, further comprising the step of abstracting a representation of the selected image acquisition device for use in establishing the second communication link by using information provided by the driver.

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14. The method of Claim 10, wherein the step of interfacing, comprises a step of rendering on a display device of the electronic device a user interface for use by the user for interfacing with the image acquisition engine.

20 15. The method of Claim 10 further comprising the step of, triggering the image acquisition device on a selected event to acquire one or more images.

16. The method of Claim 15 further comprising the step of, previewing one or more images from the image acquisition device before, while, or after the triggering of the image acquisition device occurs.

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17. The method of Claim 10 further comprising the step of, montaging one or more images acquired by the image acquisition device on a display device associated with electronic device.

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18. The method of Claim 10 further comprising the step of, identifying a region of interest for an image acquired by the image acquisition device.

19. The method of Claim 10, further comprising the step of requesting the image acquisition engine to determine an interface for the image acquisition device installed and accessible to the image acquisition engine.

5 20. The method of Claim 10, further comprising the step of requesting the image acquisition engine to determine each interface associated with an image acquisition device installed and accessible to the image acquisition engine.

10 21. The method of Claim 20, wherein the image acquisition engine determines each interface associated with an image acquisition installed and accessible to the image acquisition engine across one or more image acquisition device types.

15 22. The method of Claim 10, further comprising the step of providing the image acquisition engine with one or more requests for configuring the selected image acquisition device.

23. The method of Claim 22, further comprising the step of configuring the selected image acquisition device based on each provided request.

20 24. The method of Claim 22, further comprising the step of configuring a type of image acquisition based on each provided request.

25 25. The method of Claim 24, wherein the type of image acquisition comprises still image acquisition.

26. The method of Claim 24, wherein the type of image acquisition comprises a plurality of images acquired in a sequence.

30 27. The method of Claim 10, further comprising the step of requesting the image acquisition engine to acquire a number of images using the image acquisition device.

28. The method of Claim 27, wherein the number of images comprises a single image.

29. The method of Claim 27, wherein the number of images comprises a plurality of images.

30. The method of Claim 10, wherein the image acquisition engine is capable of feeding to the user one or more live images from the selected image acquisition device.

31. The method of Claim 10, further comprising defining a color space for the images acquired by the image acquisition device.

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32. A device readable medium holding device executable instructions for performing a method in an electronic device for accessing an image acquisition device associated with the electronic device independent of an interface protocol of the image acquisition device, the method comprising the steps of,

15 accepting a request from a requester to access the image acquisition device;

creating a communication channel between the requester and the image acquisition device independent of the interface protocol of the image acquisition device; and

20 the requester, accessing a feature of the image acquisition device using the communication channel.

33. The method of Claim 32, wherein the request specifies a format for a response from the image acquisition device.

25 34. The method of Claim 33, wherein the step of creating comprises the steps of, communicating with an interface of the image acquisition device to establish communication with the image acquisition device; and

determining one or more communication procedures between the requester and the image acquisition device, the communication procedures providing instructions on how data transfers are managed between the requester and the image acquisition device across the communication channel.

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35. The method of Claim 34, wherein the one or more communication procedures provides instructions for at least one of, logging data to file, buffering data received

from the image acquisition device, configuring selected properties associated with the image acquisition device, generating events, and translating error codes from the image acquisition device.

5 36. The method of Claim 32, wherein the request from the requester is received from a user interface.

37. The method of Claim 36, wherein said user interface comprises an object based interface having methods and attributes.

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38. A program holding product having instructions executable by an electronic device which, when executed by a processor of the electronic device allows a user of the electronic device to communicate with a selected image acquisition device associated with the electronic device by performing the steps of,

15 interfacing a user of the electronic device with an image acquisition engine; and

 linking the image acquisition engine and an interface of the selected image acquisition device using a communication channel operating independent of an interface protocol of the selected image acquisition device allowing the user to
20 communicate with the selected image acquisition device.

39. The program product of Claim 38, further comprising the step of, associating the image acquisition engine with a driver adapted for communicating with the interface of the selected image acquisition device.

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40. The program product of Claim 38, further comprising the step of, selecting the image acquisition device from a plurality of image acquisitions devices associated with the electronic device.

30 41. The program product of Claim 38, further comprising the step of, abstracting a representation of the selected image acquisition device for use in linking the image acquisition engine and the interface of the selected image acquisition device provided by the driver.

42. The program product of Claim 38, wherein the step of interfacing, comprises a step of rendering on a display device of the electronic device a user interface for use by the user for interfacing with the image acquisition engine.

5 43. The program product of Claim 38 further comprising the step of, triggering the image acquisition device on a selected event to acquire one or more images.

44. The program product of Claim 43 further comprising the step of, previewing one or more images from the image acquisition device before, while, or after the
10 triggering of the image acquisition device occurs.

45. The program product of Claim 38 further comprising the step of, montaging one or more images acquired by the image acquisition device on a display device associated with electronic device.

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46. The program product of Claim 38 further comprising the step of, identifying a region of interest for an image acquired by the image acquisition device.